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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,705

01/14/2004

John C. Miller

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4011

7590

09/27/2006

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EXAMINER

GANEY, STEVEN J

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/757,705

Applicant(s)

MILLER ET AL.

Examiner

Steven J. Ganey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,25,26,31,32,37,38,43-46 and 48- 51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-18,43-46 and 48-50 is/are allowed.
- 6) ☒ Claim(s) 1-13,19,20,25,26,31,32,37,38 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Receipt is acknowledged of the amendment filed on May 8, 2006 and August 11, 2006, which has been fully considered in this action.

Claim Objections

2. Claims 10-13, 19, 20, 25, 26, 31, 32, 37, 38, 43-46, 48, 49 and 51 are objected to because of the following informalities: In claims 10-13, 19, 20, 25, 26, 31, 32, 37, 38, the preambles are different from the preamble of claim 1, from which they depend directly or indirectly. Currently the preamble of claim 1 is "A self-protecting barrier system for retarding fire" and the preambles of the other claims are "A self-protecting fire-retardant barrier system". Either the above claims should have the word "fire-retardant" deleted from the claims or claim 1 and the remaining dependent claims from it should have the word "fire-retardant" added to be consistent. In claims 19 and 20, line 2, the word "hydrophillic" should be --hydrophilic--. In claims 43-46 and 48, the preambles are different from the preamble of claim 14, from which they depend. Currently the preamble of claim 14 is "A self-protecting barrier for retarding fire" and the preambles of the other claims are "A self-protecting fire-retardant barrier". Either the above claims should have the word "fire-retardant" deleted from the claims or claim 14 should have the word "fire-retardant" added to be consistent. In claim 49, line 12, the word "volatizing" should be changed to --volatilizing--. In claim 49, line 15, the phrase "first steam layer" should be changed to --steam layer-- to provide proper antecedent basis. In claim 51, line 3, the word "volatizing" should be changed to --volatilizing--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7-9 and 51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification is silent to the recitation now claimed in claim 7, “steam between said second fabric and said fuel” and in claim 51, the “step of volatilizing a portion of said water at a temperature of about 100 °C to form steam at said second surface of said barrier, and between said barrier and said fuel”. There is no support in the specification for a steam layer on the second surface or between the second fabric and the fuel. The paragraphs provided by the applicant to support these new limitations do not recite such limitations. The only support in the specification is for a steam layer to form on the outside surface 21 of fabric 18, between the barrier and the fire. As discussed in the specification, paragraph [0015], lines 5-9, the steam layer is continuously replenished during a fire because a large amount of water absorbed by the superabsorbent polymer is continuously volatilized to form the steam layer. Therefore, only the surface which is exposed to the fire will form the steam layer, steam is not being produced throughout the barrier such that it escapes on both sides of the barrier. Steam is not provided on the second surface or between the fuel and the barrier, because in that case a fire would have to

be exposing the second surface of the barrier in order to volatilize the water absorbed by the superabsorbent polymer to form a steam layer. If that were the case than the fuel would also be exposed to fire and therefore the effectiveness of the barrier would be made moot.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of “substantially unburned first fabric”, is indefinite and unclear since it appears to indicate that the first fabric should be burnt but not substantially. There is no support for this in the specification as disclosed. It appears that the phrase “substantially unburned” does not provide any substance to the claim and should be deleted.

In claim 1, line 5, the recitation of “said first fabric having a surface and having at least 9 pockets per square foot’ is indefinite because it is incorrectly stating that the first fabric has at least 9 pockets, however, the first fabric is only one part or one side of the pocket, since the pocket is formed from a first fabric and a second fabric connected together. Language adding the second fabric in combination with the first fabric should be added or language such as --and the fire retardant barrier having at least 9 pockets per square foot-- should be used.

In claim 1, the applicant positively recites the pockets “contain hydrated superabsorbent polymer”, however, this limitation is only disclosed as being in use conditions when a person will spray the unhydrated superabsorbent polymer in the pockets with water and is more of a result from a method step of hydrating the superabsorbent polymer. The claim does not recite

that this limitation is when the barrier is in use. Also, the barrier would not be able to be used properly if the pockets already contained hydrated absorbent polymer since the weight from the hydrated absorbent polymer would be too heavy and difficult to manipulate or move the barrier. See page 14, paragraph [0054] of the specification.

In claim 1, the applicant positively recites “a first layer of steam at said surface of said first fabric”, however, this limitation is only disclosed as being in use conditions and only after the barrier is subject to fire will the water evaporate to have a layer of steam at the surface of the fabric. The claim does not recite that this limitation is when the barrier is in use. In addition, it appears from the claim that the barrier system is provided with the steam on the surface of the fabric as a separate element, just as the pockets are provided with the unhydrated superabsorbent polymer, however, this is not the case. Steam is generated only as a result from the heat directed on the barrier from a fire. Also, the use of the term “first” is indefinite since this assumes that there is more than one steam layer, however, as shown and disclosed there is only one steam layer on the front face of the barrier.

In claim 1, the applicant positively recites “said hydrated superabsorbent polymer having a temperature of about 100 °C”, however, this limitation is only disclosed as being in use conditions and only after the barrier is subject to fire and the water absorbed in the superabsorbent polymer has absorbed a large amount of heat from the fire. The claim does not recite that this limitation is when the barrier is in use. In addition, it appears from the claim that the barrier system is provided with the hydrated superabsorbent polymer having a temperature of about 100 °C at the time of production, however, this is not the case. The temperature of the

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hydrated superabsorbent polymer is only raised as a result from the heat directed on the barrier from a fire.

In claim 1, the recitation of "a fire adjacent said surface of said first fabric", is indefinite and confusing. Is it applicant's true intention to provide a fire for the self-protecting barrier system, because that is how this claim reads. Applicant is attempting to claim the apparatus in a "use" condition or after "method of using" steps have assumed to have been performed. One of ordinary skill in the art, especially one in the fire protection field, would **not** attempt to provide a self-protecting barrier system for retarding fire by providing the fire as one of its elements.

In regard to claim 1, applicant needs to rethink what applicant is attempting to be claimed, i.e. an apparatus or a method of using the apparatus, because currently it appears that the claim is embracing or overlapping two different statutory classes of invention. Any limitation directly related to the hydrated polymer, fire, steam or temperature of the hydrated polymer should be written as functional language in relation to being hydrated with water or exposed to the heat from a fire. The lack of an art rejection is not an indication of allowability, it is the fact that the examiner does not believe one of ordinary skill in the fire protection field would ever provide a fire as part of a self-protecting barrier system to retard fire. The only time one would provide a fire would be when fire fighters attempting to control forest fires, will provide a fire break or burn back to destroy potential fuel from a wild fire moving in their direction, this is not the case in the instant invention.

In claim 7, the recitation of "substantially unburned second fabric", is indefinite and unclear since it appears to indicate that the second fabric should be burnt but not substantially.

There is no support for this in the specification as disclosed. It appears that the phrase “substantially unburned” does not provide any substance to the claim and should be deleted.

In claim 12, there is an inconsistency between the language in the preamble, which recites a self-protecting fire-retardant barrier system, and body of the claims which also positively recites a building adjacent said fire-retardant barrier and means for fastening said fire-retardant barrier to said building. This makes the scope of the claim unclear since it appears to be reciting the subcombination of the barrier system, however, the limitation concerning the combination with the building is also positively recited. Applicant is required to clarify whether claim 12 is drawn to the subcombination or the combination and to amend the claim to be consistent with the intent, if it is the subcombination language such as “capable of” or “adapted to” should be used. As to treating the claim on the merits, the examiner is considering the claim to be drawn to the combination of the barrier system and the building.

In claim 13, line 3, the use of the term “first” is indefinite since this assumes that there is more than one steam layer, however, as shown and disclosed there is only one steam layer on the front face of the barrier.

In claim 13, there is an inconsistency between the language in the preamble, which recites a self-protecting fire-retardant barrier system, and body of the claims which also positively recites a building adjacent said fire-retardant barrier and fasteners for fastening said fire-retardant barrier to said building. This makes the scope of the claim unclear since it appears to be reciting the subcombination of the barrier system, however, the limitation concerning the combination with the building is also positively recited. Applicant is required to clarify whether claim 13 is drawn to the subcombination or the combination and to amend the claim to be

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consistent with the intent, if it is the subcombination language such as “capable of” or “adapted to” should be used. As to treating the claim on the merits, the examiner is considering the claim to be drawn to the combination of the barrier system and the building.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5(as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bumbarger.

Bumbarger discloses a barrier comprising a pair of fabric sheets 12/16(sheet 12 is water permeable) joined together to form pockets, which are filled with a superabsorbent polymer, except for the number of pockets per square foot, the volumetric capacity range of each pocket and the amount of polymer per cubic inch. Note col. 2, lines 39-67 through col. 3, lines 1-11, col. 5, line 55-67, col. 7, line 50-67 through col. 8, line 12 and col. 9, lines 16-30. Also, see Figures 5 and 6. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the number of pockets per square foot, the volumetric capacity range of each pocket and the amount of polymer per cubic inch as claimed, since Bumbarger teaches that the quilted seams form pockets for the absorbent particles and therefore, the more pockets per square foot the greater protection would be provided. Bumbarger controls the amount of polymer proportional to the size of the pocket.

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As to the recitation of a layer of steam at said surface of said fabric in claim 1, note column 6, lines 14-24, where it discloses that the liquid (i.e. water) within the pockets begins to vaporize (i.e.: form steam) and pass through the sheet 12.

As to claim 2, such a superabsorbent polymer is well known and would have been a matter of obvious design choice.

Allowable Subject Matter

9. Claims 14-18, 43-46 and 48-50 are allowed.
10. Claims 6, 10-13, 19, 20, 25, 26, 31, 32, 37 and 38 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Amendment

11. The declaration under 37 CFR 1.132 filed May 8, 2006 is sufficient to overcome the rejection of claims 6,10-20,25,26,31,32,37,38,43-46 and 48-50 based upon Bumbarger and Bumbarger in view of Roger et al applied under 35 U.S.C. 103(a).
12. The declaration under 37 CFR 1.132 filed May 8, 2006 is insufficient to overcome the rejection of claims 1-5 based upon Bumbarger applied under 35 U.S.C. 103(a) as set forth in the last Office action because the showing is not commensurate in scope with the claims. In regards to claims 1-5, the declaration refers to 100% hydrated polymer and the polymer being a conductor however, such limitations are not recited in claims 1-5.

Response to Arguments

13. Applicant's arguments filed May 8, 2006 have been fully considered but they are not persuasive.

In response to applicant's arguments that Bumbarger neither discloses a barrier, a barrier self-protecting from fire and a layer of steam etc., note that steam is the vapor phase of water, and when the water is vaporized, as disclosed in Bumbarger, it is the result of the water evaporating due to the exposure of heat from the fire. As to a barrier, by definition it is something that separates, therefore, the multilayer composite of Bumbarger does separate heat from a person or object when exposed to fire and is therefore, self-protecting. Also, note there is only one Bumbarger reference, if the examiner had been referring to Bumbarger '977 he would have referred to that as Bumbarger et al.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Ganey whose telephone number is 571-272-4899. The examiner can normally be reached on 7:00-5:00; M, Tu, W and Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sjg
9/19/06


STEVEN J. GANEY
PRIMARY EXAMINER
9/19/06